

GUIDANCE FOR THE BENEFICIAL USE OF INDUSTRIAL BYPRODUCTS

CH. NR 538, WIS. ADM. CODE

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BUREAU OF WASTE MANAGEMENT
WISCONSIN DEPARTMENT OF NATURAL RESOURCES



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Introduction

The Department encourages the beneficial use of industrial byproducts in order to preserve resources, conserve energy, and reduce or eliminate the need to dispose of these materials at landfills, as well as reduce the need for additional quarries and soil borrow pits. There are approximately 3 million tons of industrial byproducts landfilled in Wisconsin each year. Legislation enacted in 1985 (1985 Wisconsin Act 46), encourages the beneficial use of fly ash, bottom ash, paper mill sludge and foundry system sands and slags. Under this authority, the Department can waive procedural requirements associated with the landfill siting process, for beneficial use of these materials if the substantive requirements of the state's environmental laws and regulations are met.

Since 1985, many beneficial uses have been approved, at first on a case-by-case basis, then under general exemptions. This rule, ch. NR 538, Wis. Adm. Code (NR 538), is the latest step in the evolution of the beneficial use of these materials. The Department was assisted in the development of NR 538 by a technical advisory committee that included representatives of the groups most directly affected by this rule. We will be meeting with this advisory committee on an annual basis to discuss progress in the beneficial use of these materials.

The goal of NR 538 is to increase environmentally sound opportunities for the beneficial use of these materials. This largely self-implementing rule establishes standards for five categories of industrial byproducts. The rule describes use methods appropriate for each category. Most beneficial uses allowed under this rule can proceed without specific Department approval. The rule addresses the storage and transportation of these materials, the notification of owners of properties where these materials are placed and establishes a public participation process. The rule includes requirements for initial and annual certifications to the Department, and a notification to the Department for larger projects to allow for an evaluation of potential for impacts to human health or the environment. The rule also allows for Department review and approval of non-standard uses or materials where appropriate.

NR 538.02 Applicability

This rule applies only to beneficial use of a specifically defined array of industrial byproducts. It does not apply to hazardous waste or metallic mining waste. The landspreading of both wastewater treatment sludges and solid wastes are not covered by this rule. Wastewater treatment sludges to be used for landspreading are approved by the Department's wastewater program. Approval of other landspreading proposals is the responsibility of the solid waste program. Also, beneficial use of these materials should take into account all other applicable federal, state and local regulations.

Question: Does this rule apply to licensed landfills?

Answer: Yes, industrial byproducts may be used as daily cover or for internal structures at lined landfills having a leachate collection system. If used according to this rule there are no fees for Department review, nor in most cases are there tonnage fees for industrial byproducts used in these ways. In order to be exempt from the environmental tonnage fees the use of industrial byproducts must be approved in the plan of operation for the landfill. Also, the amount of material used must be reported on the annual solid waste certification for the landfill.

Question: During the course of a construction project, what appears to be a high volume industrial waste is encountered. What would be the proper procedure in this situation?

Answer: The options will vary depending on the specific details of each situation. You will need to contact the Department to determine what approach is appropriate. We have included a discussion of this issue in Appendix A.

NR 538.03 Definitions

This section defines words and terms that have specific meanings for this rule. The definitions in NR 500.03 are also applicable to this rule. Two terms that are of particular importance to this rule are *industrial byproducts* and *residential area*. In NR 538, industrial byproducts means papermill sludge, coal ash including slag, foundry excess system sand, foundry slag or other non-hazardous solid waste with similar characteristics as determined by the Department.

A definition for residential area was included because most use methods in this rule are intended for non-residential situations. Except for Category 1 industrial byproducts, use in residential settings is very limited. The most significant opportunities for use of these materials are in commercial or industrial construction. The potential for human direct contact, ingestion or inhalation of these materials, especially by children, is much less in these non-residential settings. These factors were taken into account when the standards for this rule were calculated, and the definition of residential area reflects this approach.

Question: Would industrial byproducts include material that has already been landfilled?

Answer: Not usually because industrial byproducts that have already been landfilled would in most cases become mixed with waste materials and would no longer be a homogenous material with uniform physical and chemical characteristics. There may be some instances where the Department could approve the beneficial use of these materials.

NR 538.04 Performance Standards

When considering the storage, handling or beneficial use of industrial byproducts it is important to adequately protect the surrounding environment. The rule prohibits uses that cause significant impacts to wetlands, critical habitat areas, surface water or groundwater.

Question: Can industrial byproducts be used in a floodplain?

Answer: Placement of materials in a floodplain in a manner that would cause an obstruction to flood flows or an increase in regional flood event or adverse affect upon a drainage course is regulated under NR 116. You should refer to these regulations prior to considering placement of material in a floodplain.

NR 538.05 Solid Waste Rules Exemption

If the industrial byproduct is characterized and beneficially used according to this rule the licensing and regulatory requirements of chapters NR 500 to 536 do not apply.

Question: If I have a current grant of exemption or approval for storage, handling or beneficial use of an industrial byproduct does this rule take precedence?

Answer: No, this rule does not invalidate an approval or grant of exemption that was issued under ss. 289.43(7) or (8), Stats. (formerly, ss. 144.44(7)(f) & (g), Stats.). However, the Department will ask the generator of an industrial byproduct, operator of a storage facility or their designee to follow the annual certification section described in NR 538.14(2). This information will be very important in determining the success of the beneficial use program. The Department retains the authority to modify existing approvals and exemptions on a case specific basis. Exemptions that are valid for a set period of time may be renewed by the Department when they expire, and the provisions of NR 538 will be considered when an application for renewal is made. If a generator intends on discontinuing beneficial use under a general exemption in favor of beneficial use solely under NR 538, the Department asks that the generator notify the Department.

Question: Can the Department modify, terminate or rescind any grant of exemption or approval?

Answer: Yes, the Department retains the authority to modify, terminate or rescind any approval or grant of exemption as provided by law.

NR 538.06 Industrial Byproduct Characterization

The rule provides that you must characterize an industrial byproduct to determine its category and what uses are allowed. The ASTM water leach test and total elemental analysis are the main analysis methods. The testing requirements vary for each category. The tables in the appendix of the rule contain the testing requirements for Categories 1 through 4. Category 5 materials must simply be shown not to be a hazardous waste. The tables contain specific parameter lists for ferrous foundry system sand, ferrous foundry slag, and coal ash. For other materials, contact the Department to determine the appropriate testing program.

These materials must also be retested on a regular basis. Recharacterization depends on the category of the industrial byproduct and whether the process that generates the industrial byproduct has changed significantly. The frequency for recharacterization ranges from annual for Category 1, to every 5 years for Category 4, with Category 5 recharacterization required only when there is a change in the process that generates the industrial byproduct which could result in a change in the category. If only small volumes of an industrial byproduct are beneficially used or stored for use (<1,000 cubic yards/year), the periodic recharacterization is waived.

Question: How do I collect a representative sample?

Answer: The sample collection should take into account any factors that may affect the sample. Some of the factors that should be taken into consideration include the location of the sample, variability in the process that produces the industrial byproduct, sampling equipment, and laboratory requirements for sample size, preservation, storage and transportation.

In many cases, a composite sample may need to be collected from several locations, or over a specific time period in order to accurately reflect the make-up of the industrial byproduct to be beneficially used. Samples should be collected after any processing (e.g. crushing, screening) of the industrial byproduct is done, but prior to commingling with other materials. It is also very important that the sampling technique be adequately documented. This should help if questions arise regarding sample results and allows for the most consistent sampling technique and greater reproducibility.

Question: Can characterization analyses completed prior to the effective date of the rule be used to categorize an industrial byproduct for beneficial use under NR 538?

Answer: Yes, if the analysis included all the required parameters and met the detection limit requirements of NR 538, and if the analysis was recent enough to reflect a representative sample of the industrial byproduct currently being generated. Ordinarily, analyses completed more recently than the time period specified for recharacterization for the specific category of industrial byproduct would be adequate.

Question: What if results of a recharacterization differ significantly from previous results?

Answer: If the results from characterization change from previous characterizations you should evaluate all the variables that could have affected the sample results. If after evaluating the situation you believe the recharacterization does not accurately represent the industrial byproduct, contact Department staff. Retention of an industrial byproduct's previous category may be allowed while a new analysis is completed, if adequate evidence can be provided to show that the particular results were inaccurate. It may be necessary to analyze more than one sample to refute or confirm suspect recharacterization results.

Question: Can the list of parameters be reduced for a recharacterization?

Answer: The rule does allow for the Department to approve alternate recharacterization approaches. This could include elimination of parameters or a reduction in frequency of analysis for certain parameters. If you want to modify the parameter list for recharacterization, contact Department staff. In evaluating a request to modify the parameter list for a recharacterization, Department staff generally would consider such things as previous characterization results, the variability of the process that produces the industrial byproduct, the analysis result in relation to the category standards and other pertinent factors.

Question: When would a process change require a recharacterization of an industrial byproduct?

Answer: A process change that could result in a change of the category of the industrial byproduct would require a recharacterization. This ordinarily would depend on such things as how close the industrial byproduct was to a category standard and how significant the process change is, as well as other pertinent factors. For an industrial byproduct that is very close to a category standard, it may only take a small process modification to change the industrial byproduct's category. Generators should apply their knowledge of the industrial byproduct and the process that produces it in determining the need for a recharacterization.

Question: Are small generators exempt from recharacterization requirements?

Answer: Under NR 538.06(4), a generator of industrial byproducts that beneficially uses or stores for future use less than 1,000 cubic yards per year (averaged over the time period specified for recharacterization for each category) is exempt from periodic recharacterization. If there is a process modification that could result in a change of the category of the industrial byproduct, recharacterization would be required, even for these small generators.

NR 538.08 Industrial Byproduct Categories

NR 538 creates five categories of industrial byproducts and establishes standards for each category. The various beneficial use methods in the proposed rule were grouped to reflect the characterization requirements for each category. In general, the uses allowed for Category 1 are the least restrictive and those allowed for Category 5 are the most controlled. Table 4 in the appendix of the rule summarizes the uses allowable for each category of industrial byproduct.

Question: How do I properly categorize an industrial byproduct?

Answer: To categorize an industrial byproduct, you must compare the results from the characterization with the standards listed in Tables 1 through 3 in the appendix of the rule. The testing requirements and standards vary depending on the category, under NR 538.06. For Categories 1 and 2, both ASTM water leach test standards and total elemental analysis standards are applicable. For Categories 3 and 4 only ASTM water leach test standards apply. For Category 5 an industrial byproduct must simply be shown to not be a hazardous waste.

If your industrial byproduct is a ferrous foundry system sand, ferrous foundry slag or coal ash, the tables indicate specific parameters to analyze for. The testing program for other industrial byproducts must be approved by the Department in writing prior to characterization. For these "other" materials the Department may add or subtract from the parameters listed in those tables depending on the particular industrial byproduct. The characterization results must meet the standards listed for all applicable parameters for an industrial byproduct to be classified in that category.

Question: What is a case specific approval and when should I consider requesting one?

Answer: Although the rule is intended to be largely self-implementing, we recognize that one size (or five categories) does not fit all. A case specific approval allows the Department to assign a category to a material or approve a beneficial use that does not meet the beneficial uses or standards specified in the rule. If you have an industrial byproduct or a beneficial use project that does not meet a specification of the rule, but there are mitigating factors that you feel justify the beneficial use, you should contact the Department to discuss requesting a case specific approval. The Department can issue approvals for a specific industrial byproduct, use method, project or a combination of these.

NR 538.10 Beneficial uses

The purpose of NR 538 is to divert industrial byproducts away from disposal, and into constructive uses that are environmentally safe and beneficial. Over the years several uses such as road construction fill, embankment fill and building subbase fill have been identified that meet the intent of NR 538. As a part of this rule package several other uses have been identified that incorporate the byproducts into a useful product that is environmentally safe.

A particular industrial byproduct's usefulness depends on both its chemical and physical makeup. In addition to meeting the standards contained in NR 538, industrial byproducts must consistently meet the physical criteria of potential consumers and adequately perform functions similar to the material it would be replacing. These factors are best addressed through quality control at the point of generation.

Question: Can industrial byproducts be used as subbase material for buildings, such as barns or storage sheds, in rural areas where a residence is located on the same property as a business (e.g. farms)?

Answer: Yes, providing the beneficial use is at least 200 feet from the residence, and the other requirements of NR 538.10(5) are met.

Question: For confined geotechnical fill uses where the industrial byproduct may extend beyond a paved area [NR 538.10(5)(b)-(e)], in general, what slopes would be acceptable for preventing ponding of water over those areas?

Answer: Generally, in areas where industrial byproducts are not covered with an impervious surface slopes of at least 5% but no steeper than 4 (horizontal) to 1 (vertical) have been adequate to prevent ponding of water. Also, a layer of clean fill followed by topsoil and seeding, or sodding has generally been adequate to reduce infiltration and erosion. Specific circumstances may warrant an alternate design. If erosion occurs then repairs should be made immediately.

Question: Would a flowable fill (a.k.a. controlled low-strength material) that includes an industrial byproduct be acceptable to use for an utility trench backfill?

Answer: Generally, flowable fill would be allowed if the structural integrity of the surface is maintained and generally accepted engineering practices specified for the use are followed. Where any industrial byproducts are used as a geotechnical fill (other than Category 1), the property owner notification requirements in NR 538.22 would need to be followed to help assure any repair work done in the area would take into account the presence of industrial byproducts.

NR 538.12 Beneficial Uses for Specific Categories of Industrial Byproduct

The beneficial use of industrial byproduct in accordance with NR 538 is exempt from the licensing and regulatory requirements imposed on other solid waste facilities. Even though the activities are exempt, there are performance and operational criteria that need to be observed.

Question: What is considered a nuisance as discussed in NR 538.12(2)(e)?

Answer: Webster's Dictionary defines nuisance as "an annoying, unpleasant, or obnoxious thing or practice". The term is not defined in the NR 500 series. However, there is a large body of statutory and common law which deals with "nuisances." Whether or not an activity constitutes a nuisance is essentially a case specific determination, depending on the specific conditions involved. Considerations include such things as the reasonableness of the activity in its surroundings, the nature of and degree of impact on people and the environment, the relative values of the interests involved and a variety of other factors. An activity performed at a beneficial use project may cause nuisance conditions at one location and not at another due to the different surrounding environment. For example, fugitive dust from a project near a residential area may cause nuisance conditions, while the same project in a remote area may not.

NR 538.14 Reporting

Generators of industrial byproducts must provide the Department with an initial certification before initiating beneficial use of an industrial byproduct, and whenever the classification of the industrial byproduct changes. The initial certification includes basic information about the generator and the industrial byproduct. An annual certification that contains information on the previous year's beneficial use is also required, but is waived for a generator if less than 1,000 cubic yards of industrial byproducts are beneficially used or stored.

Note: Copies of the initial and annual certification forms can be found in Appendix B of this document.

Question: To whom should we send the completed initial and annual certifications?

Answer: Both the initial and annual certification forms should be sent to your Regional DNR office. The name and address of your contact can be found in Appendix C of this document.

Question: I am a small generator of an industrial byproduct and do not intend to beneficially use more than 1,000 cubic yards. Do I need to make a certification to the Department?

Answer: If you intend to beneficially use or store for future use any industrial byproduct, you are required to submit an initial certification prior to beneficial use. If you beneficially used or stored for future use less than 1,000 cubic yards during the reporting period, you are exempted from the annual certification requirement. The Department encourages you, however, to take the time to complete and submit the annual certification so we can keep track of your efforts and gauge the success of the rule.

NR 538.16 Storage and Transportation Requirements

Storage and transportation is an integral part of a complete byproduct beneficial use. Proper operation and maintenance of the storage facility is essential. Except for a small number of exempt facilities, an engineered storage facility is required.

Note: We have included a discussion of storage facility design and operation in Appendix B of this document.

NR 538.18 Public Participation

These requirements apply only to beneficial use projects or storage facilities handling large quantities (i.e., more than 30,000 cubic yards) of material. Persons wishing to initiate such a beneficial use project or construct/operate such a storage facility for materials destined for beneficial use must inform the affected public and provide a forum for public participation prior to commencement of these activities. At a minimum, a public notice must be placed in the local newspaper at least 30 business days before initiating the above-mentioned activities, explaining the essential aspects of the activity, and hold a public informational meeting at the request of the public to discuss any concerns the public may have.

Note: An example of language that could be used in a public notice is included in Appendix B of this document.

Question: Are any large beneficial use projects exempted from the above public participation requirements?

Answer: Exemptions from the above requirements include: beneficial use of Category 1 industrial byproducts, Wisconsin Department of Transportation beneficial use projects already approved through its environmental review process, beneficial use projects at facilities licensed under chapters NR 500-536, and beneficial uses described under NR 538.10 (1) to (4).

Question: Are there any exemptions from the public participation requirements for large beneficial use storage facilities?

Answer: Beneficial use storage facilities located on the property where the industrial byproducts are generated, or licensed under NR 502, or containing only Category 1 industrial byproducts, are exempt from the public participation requirements.

NR 538.20 Environmental Monitoring

Monitoring is automatically required only for the fully encapsulated or capped transportation facility embankment uses. Monitoring may be required at other beneficial use projects that are not listed in NR 538.10. For transportation facility embankments, either headwells (fully encapsulated embankments) or a basin lysimeter (capped embankments) must be installed. These devices will be monitored to determine the amount of liquid passing through the embankment cap. If excessive liquid is detected building up on the liner or in the lysimeter, the Department must be notified. The Wisconsin Department of Transportation is currently developing specifications for construction of transportation embankments that include such items as headwells and lysimeters construction. Use of this guidance is recommended by the Department.

Question: Who is responsible for monitoring?

Answer: The generator of the industrial byproduct is responsible for assuring that the monitoring is done. Monitoring results are to be included with the annual certification.

NR 538.22 Property Owner Notification

This section requires that owners of property where industrial byproducts are beneficially used as geotechnical fill receive notification from the generator of the industrial byproduct, or a person designated by the generator (e.g., a broker or consultant). The information required in the notification is based on the volume utilized in the project.

Property owner notification is intended to serve two purposes. It ensures that the property owner is aware these materials are present so that the appropriate institutional controls are maintained. Without such notification these materials may be disturbed and mishandled in the future because the property owner was unaware of their presence. It will also provide the property owner documentation that the materials are industrial byproducts beneficially used in accordance with NR 538, and not improperly disposed waste.

Note: A copy of the Property Owner Notification Form can be found in Appendix B of this document. An affidavit form, which can be used when an affidavit is required under

NR 538.22(4) is also in Appendix B.

Appendix A - Topic Guidelines

- Storage Guidelines
- Waste Excavation Guidelines

INDUSTRIAL BYPRODUCT STORAGE FACILITY GUIDANCE

- A. NR 538.16 provides basic requirements for how industrial byproducts are stored for beneficial use. Storage facilities are exempt from licensing and plan approval under NR 502.05 if they follow the requirements of NR 538.16. All storage facilities must meet the performance standards listed in NR 538.04, and must be operated in a manner that minimizes windblown dust, odor and tracking, and must not cause nuisance conditions. Also, initial and annual certifications must be provided to the Department for storage facilities that are not exempt under NR 538.16(1)(a). The annual certification must include a summary of storage facility performance, problems and maintenance.
1. Areas used to store Category 2 or 3 industrial byproducts for two or more years, or used to store Category 4 or 5 industrial byproducts for any period of time, must:
 - a. incorporate a low-permeability asphalt, concrete or clay pad (with a protective material over the clay), surrounded by curbs / berms to control surface water run-on and run-off.
 - b. water contact with the stored industrial byproduct must be minimized to the extent practical.
 - c. the design must allow for the volume of run-off expected from a 25-year, 24-hour storm event to be collected, contained and treated.
 - d. a setback must be maintained between the stored materials and the edge of the pad to prevent spillage of materials off the pad and allow vehicle movement completely around the stored materials.
 - e. closure of a storage facility must include removal of all visible residues from the storage area.
- B. Facilities for the beneficial use of industrial byproducts are exempt from the requirements listed in item 1 above if:
1. only Category 1 industrial byproducts are stored;
 2. the storage area is used for less than two years, for only Category 2 or 3 industrial byproducts;
 3. the storage is within an enclosed structure, such as a building, silo or green box;
 4. the storage is within a lined area at a licensed engineered landfill (owned or operated by the end-user, generator of the industrial byproduct or a person designated by the generator); or
 5. the Department has issued a case specific exemption for the storage facility.

- C. The following features are recommended for the design and operation of an industrial byproduct storage facility:
1. The storage pad and the leachate collection pond low permeability liner should be:
 - a. three inches of asphalt or concrete;
 - b. one foot of clay, with at least 2 feet of cover materials, preferably a drainage material, to protect the clay and route water away from the stored material or
 - c. another liner approved by the Department.
 2. The storage pad should have a slope of at least 2% toward the leachate collection pond.
 3. Storage piles that are tarped should have the tarp extend past side curbs / berm to reduce the amount of contact water that must be collected and treated.
 4. The height of the curbs or berms to control surface water run-on and run-off should take into account the size of the pad and how often the setback area from the curb is cleaned. For larger storage facilities a three foot high berm is recommended.
 5. The setback between stored materials and the edge of the pad should be at least 10 feet to prevent spillage of materials off the pad and allow for vehicle movement completely around stored material.

WASTE EXCAVATION GUIDANCE

Various wastes, including high-volume industrial wastes have been encountered on numerous occasions during construction activities throughout the state. This will likely occur more frequently in the future. High-volume industrial wastes are defined as being fly ash, bottom ash, paper mill sludge or foundry process waste. Before being regulated, many high-volume industrial wastes, as well as other currently regulated solid wastes were commonly used as general fill material. Areas may have been filled with one or more high-volume industrial wastes but other waste types may also have been used as fill. The unknown nature of the waste material makes it very important that adequate information be compiled to determine how to best respond when these materials are encountered. Any proposal for use of such material should include the appropriate information identified below:

1. The Department's local waste management staff should be contacted upon discovery of any solid waste. At a minimum the fill material is a solid waste and is regulated by the Department. A determination must be made as to what type of waste is present. Is it a solid or hazardous waste? This guidance addresses the beneficial use of only non-hazardous high-volume industrial waste.
2. Chapter NR 538 Wis. Adm. Code - Beneficial Use of Industrial Byproducts ordinarily does not apply to this situation but may be used as a general guidance reference. Generally, the use of the fill material would be limited to confined geotechnical fill type uses. If the material in question could be an industrial byproduct that was beneficially used under NR 538, this can be verified if the property owner has a property owner notification form (DNR Form #4400-199) documenting this use. If it is documented that the material in question is an industrial byproduct, then the material can be beneficial used in accordance with NR 538.
3. Because of differing regulatory authorities other Department programs such as the hazardous waste program or the Bureau of Remediation and Redevelopment may also be involved in determining the appropriate use or disposal of the fill material.
4. A sampling protocol should be developed and proposed which includes taking of representative samples and analysis of appropriate parameters. Along with frequency and location of sampling, the proposal should be adequate to characterize the fill material. The analytical requirements may vary depending on the homogeneity of the fill material.

5. An attempt should be made to quantify the amount of fill material present. Beneficial use options may depend on these volumes. If only a small amount (<1,000 cubic yards) of material is present, removal and disposal at an engineered landfill may be most economic. Larger amounts (>10,000 cubic yards), may warrant consideration of on-site use or other more economically attractive uses.
6. The feasibility of leaving the fill material in place would in most cases depend on the type and amount of fill material, its adequate characterization, its proximity to groundwater and other pertinent factors. In these situations, the Department's written guidance for building on an abandoned landfill, and NR 506.085 may be relevant and should be reviewed.
7. An approval or grant of exemption would need to be issued by the Department for most beneficial use projects not covered by NR 538. Conditions are typically included as part of these approvals or exemptions.
8. A specific project or use should be identified early in the process. Consideration should be given to using the past fill material on the same property/location where it was discovered. On-site management of fill material is preferred in many situations.
9. Storage of the excavated fill material should be minimized. An approval/license may be required under NR 502.05.
10. Federal and local regulations along with health and safety concerns should be addressed.
11. An affidavit indicating the location and nature of the fill material may be needed.

Appendix B - Forms

- Initial Certification
- Annual Certification
- Property Owner Notification
- Deed Affidavit
- Example Public Notice

PUBLIC NOTICE SAMPLE DOCUMENT

PUBLIC NOTICE OF PROPOSED BENEFICIAL USE (*PROJECT/STORAGE FACILITY*)

NOTICE IS HEREBY GIVEN under Section NR 538.18 (1) (a) & (b), Wis. Adm. Code, that (*generator, broker, end-user or designee*) intends to

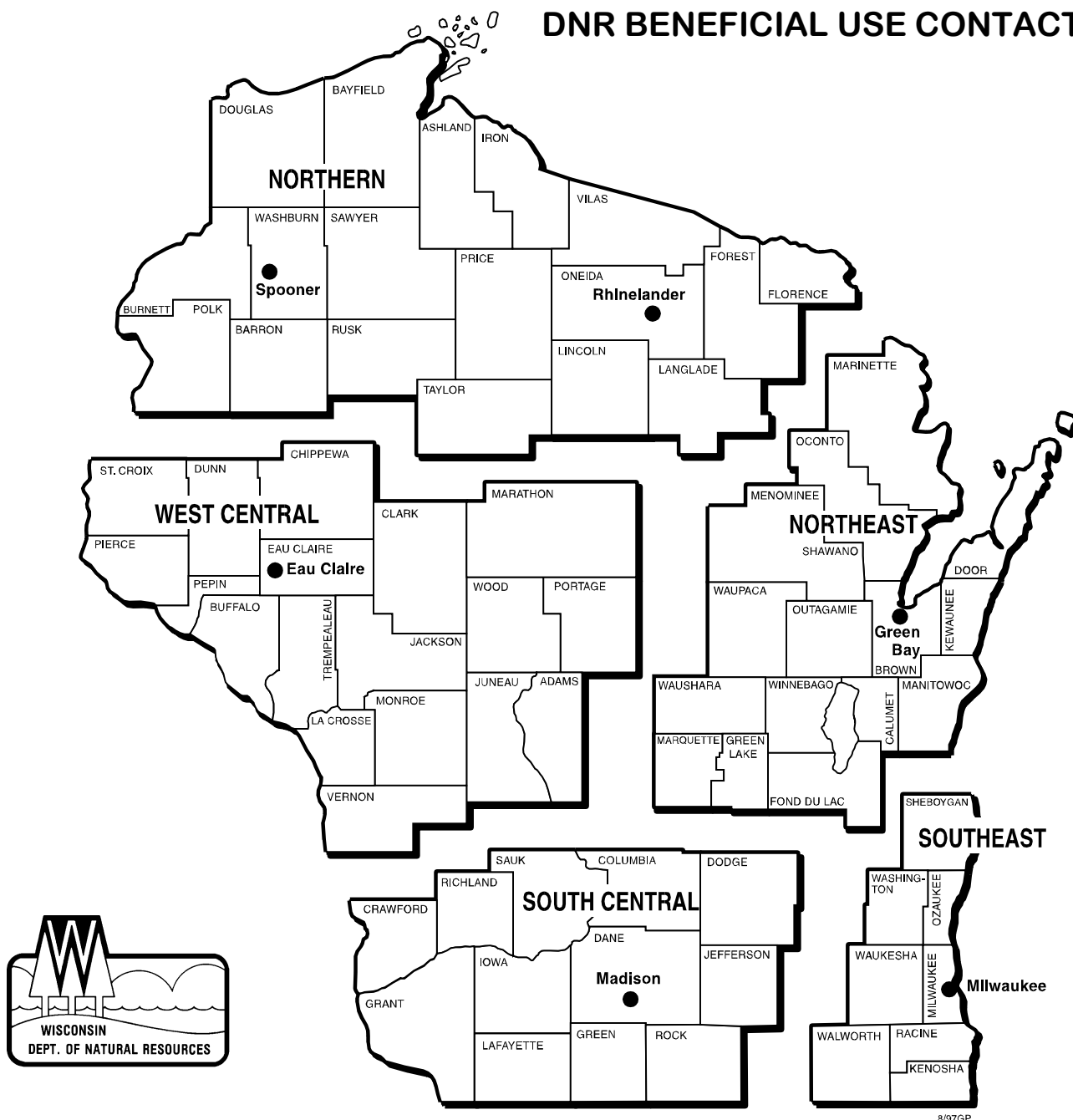
....initiate a beneficial use project under Chapter NR 538, Wis. Adm. Code, that will utilize approximately (*volume*) cubic yards of (*identify industrial byproduct*), an industrial byproduct. The industrial byproduct will be used as (*identify use method i.e. commercial building subbase fill*) at (*address or specific location identification*). This project is scheduled to commence on (*date*), and terminate on (*date*). Persons wishing to request a public informational meeting at which the details of beneficial use project may be discussed can contact (*Name*) at (*Phone number*).

- and/or -

.... construct (*and/or*) operate a beneficial use storage facility under Chapter NR 538, Wis. Adm. Code, with a design capacity of (*volume*) cubic yards. The storage facility will be located at (*address or specific location identification*). This storage facility is scheduled to begin operations on (*date*), and continue operations (until *date* / indefinitely). These materials will be stored for use in (*identify specific project, if appropriate*) a method allowed under ch. NR 538, Wis. Adm. Code. Persons wishing to request a public informational meeting at which the details of the construction and operation of the storage facility may be discussed can contact (*Name*) at (*Phone number*).

Appendix C - NR 538 Contacts Map

DNR BENEFICIAL USE CONTACTS



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Department of Natural Resources
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Beneficial Use Methods	Industrial Byproduct Category				
	5	4	3	2	1
(1) Raw Material for Manufacturing a Product	X	X	X	X	X
(2) Waste Stabilization / Solidification	X	X	X	X	X
(3) Supplemental Fuel Source / Energy Recovery	X	X	X	X	X
(4) Landfill Daily Cover / Internal Structures	X	X	X	X	X
(5) Confined Geotechnical Fill (a) commercial, industrial or institutional building subbase (b) paved lot base, subbase & subgrade fill (c) paved roadway base, subbase & subgrade fill (d) tank, vault, or tunnel abandonment (e) utility trench backfill (f) bridge abutment backfill (g) slabjacking material		X	X	X	X
(6) Encapsulated Transportation Facility Embankment		X	X	X	X
(7) Capped Transportation Facility Embankment			X	X	X
(8) Unconfined Geotechnical Fill			X	X	X
(9) Unbonded Surface Course				X	X
(10) Bonded Surface Course				X	X
(11) Decorative Stone				X	X
(12) Cold Weather Road Abrasive				X	X
Note: General beneficial use in accordance with s. NR 538.12(2)					X

Note: Refer to NR 538.10 for description of each beneficial use.